



Docket No.: 29137.004.00
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
KO, Min-Jin

Customer No.: 30827

Application No.: 10/516,494

Confirmation No.: 4929

Filed: September 26, 2005

Art Unit: 1792

For: ORGANIC SILICATE POLYMER AND
INSULATION FILM COMPRISING THE
SAME

Examiner: Robert S. Walters

MS RCE
Commissioner for Patents
P.O. Box 1450
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DECLARATION UNDER 37 CFR § 1.132

I, KO, Min-Jin, willfully make the following declaration:

1. I am a co-inventor of the invention described and claimed in U.S. Patent Application No. 10/516,494 for Organic Silicate Polymer and Insulation Film Comprising the Same, hereafter referred to as "the '494 Application."

2. I am familiar with the specification and claims of the '494 Application. I am aware that a Final Office Action was mailed on May 19, 2009, rejecting claims 1-3, 6, and 7 under 35 U.S.C. § 103(a) as being obvious over U.S. Patent Application Publication No. 2001/0055891 to Ko et al. (the '891 Publication) in view of U.S. Patent No. 6,313,185 to Lau et al. (the '185 Patent). I have reviewed and understood the same for the following reasons. I disagree with the rejection in this Final Office Action.

3. I conducted many experiments before the filing the '494 Application. I conclude that the insulating films prepared according to claims 1-3, 6, and 7 are transparent films without phase-separation and show remarkably low refractive indexes compared to Comparative Example 1 of the '494 Application.

4. I conducted additional experiments to prepare Comparative Examples 3 and 4. For Comparative Example 3, a coating composition for insulating film was prepared by the same method described in Example 1 of the '494 Application, except that bismethyldimethoxy-silyhexyl polycarbonate diol was used instead of bismethyldimethoxysilylpropyl polypropylene-oxide.

For Comparative Example 4, a coating composition for insulating film was prepared by the same method described in Example 1 of the '494 Application, except that bismethyldimethoxysilylpropyl polycarbonate diol was used instead of bismethyldimethoxysilylpropyl polypropyleneoxide.

5. The coating compositions of Comparative Examples 3 and 4 were respectively spin-coated on silicon wafers to obtain thin films, and the thin film were cured to obtain insulating films.

6. The conditions of the cured thin films of Comparative Examples 3 and 4 were observed with an optical microscope and an electron microscope, the refractive indices were measured by ellipsometry, and the dielectric constant was measured by MIS method. The results are shown in the following table.

	Example 1	Comparative Example 3	Comparative Example 4
Condition of the Insulating Film	Transparent film with phase-separation	Transparent film	Haze film
Refractive Index (n)	1.295	1.354	1.299
Dielectric Constant	2.18	2.57	2.32
Modulus of Elasticity (Gpa)	3.5	4.2	1.56

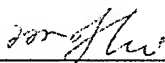
7. As shown in the table above, the insulating film of Example 1 shows good transparency (transparent films without phase-separation) and remarkably low dielectric constant compared to Comparative Examples 3 and 4.

8. Based on the experimental data for Comparative Examples 3 and 4, I conclude that the insulating films prepared according to claims 1-3, 6, and 7 are transparent films without

phase-separation and show remarkably low dielectric constant compared to Comparative Examples 3 and 4. This result is unexpected even if the teachings of the '891 publication and the '185 patent are considered.

9. I further declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge of willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully Submitted



Dated: 2009. 11. 10